

VIII-2-1	<b>Declaration: Entitlement to apply for and be granted a patent</b> Declaration as to the applicant's entitlement, as at the international filing date, to apply for and be granted a patent (Rules 4.17(ii) and 51bis.1(a)(ii)), in a case where the declaration under Rule 4.17(iv) is not appropriate: Name (LAST, First)	in relation to this international application  KONINKLIJKE PHILIPS ELECTRONICS N.V. is entitled to apply for and be granted a patent by virtue of the following:
VIII-2-1(i)		KONINKLIJKE PHILIPS ELECTRONICS N.V. is entitled as employer of the inventor, BRUCE, Matthew
VIII-2-1(i)		KONINKLIJKE PHILIPS ELECTRONICS N.V. is entitled as employer of the inventor, POWERS, Jeffry, E.
VIII-2-1(i)		KONINKLIJKE PHILIPS ELECTRONICS N.V. is entitled as employer of the inventor, HOPE-SIMPSON, David
VIII-2-1(i)		KONINKLIJKE PHILIPS ELECTRONICS N.V. is entitled as employer of the inventor, AVERKIOU, Michalakis
VIII-2-1(i)x)	This declaration is made for the purposes of:	all designations except the designation of the United States of America

# PATENT COOPERATION TREATY

# PCT

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY (Chapter I of the Patent Cooperation Treaty)

(PCT Rule 44bis)

Applicant's or agent's file reference <b>US040117WO</b>	<b>FOR FURTHER ACTION</b>	See item 4 below
International application No. <b>PCT/IB2005/050404</b>	International filing date ( <i>day/month/year</i> ) <b>31 January 2005 (31.01.2005)</b>	Priority date ( <i>day/month/year</i> ) <b>05 February 2004 (05.02.2004)</b>
International Patent Classification (8th edition unless older edition indicated) See relevant information in Form PCT/ISA/237		
Applicant <b>KONINKLIJKE PHILIPS ELECTRONICS N.V.</b>		

1.	This international preliminary report on patentability (Chapter I) is issued by the International Bureau on behalf of the International Searching Authority under Rule 44 bis.1(a).																
2.	This REPORT consists of a total of 7 sheets, including this cover sheet.  In the attached sheets, any reference to the written opinion of the International Searching Authority should be read as a reference to the international preliminary report on patentability (Chapter I) instead.																
3.	<p>This report contains indications relating to the following items:</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 15%;"><input checked="" type="checkbox"/> Box No. I</td> <td>Basis of the report</td> </tr> <tr> <td><input type="checkbox"/> Box No. II</td> <td>Priority</td> </tr> <tr> <td><input checked="" type="checkbox"/> Box No. III</td> <td>Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</td> </tr> <tr> <td><input type="checkbox"/> Box No. IV</td> <td>Lack of unity of invention</td> </tr> <tr> <td><input checked="" type="checkbox"/> Box No. V</td> <td>Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</td> </tr> <tr> <td><input type="checkbox"/> Box No. VI</td> <td>Certain documents cited</td> </tr> <tr> <td><input type="checkbox"/> Box No. VII</td> <td>Certain defects in the international application</td> </tr> <tr> <td><input type="checkbox"/> Box No. VIII</td> <td>Certain observations on the international application</td> </tr> </table>	<input checked="" type="checkbox"/> Box No. I	Basis of the report	<input type="checkbox"/> Box No. II	Priority	<input checked="" type="checkbox"/> Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability	<input type="checkbox"/> Box No. IV	Lack of unity of invention	<input checked="" type="checkbox"/> Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement	<input type="checkbox"/> Box No. VI	Certain documents cited	<input type="checkbox"/> Box No. VII	Certain defects in the international application	<input type="checkbox"/> Box No. VIII	Certain observations on the international application
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<input type="checkbox"/> Box No. VIII	Certain observations on the international application																
4.	The International Bureau will communicate this report to designated Offices in accordance with Rules 44bis.3(c) and 93bis.1 but not, except where the applicant makes an express request under Article 23(2), before the expiration of 30 months from the priority date (Rule 44bis .2).																

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland  Facsimile No. +41 22 338 82 70	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 2px;">Date of issuance of this report <b>07 August 2006 (07.08.2006)</b></td> </tr> <tr> <td style="padding: 2px;">                     Authorized officer   <div style="text-align: center; font-weight: bold; font-size: 1.2em;">Cecile Chatel</div> </td> </tr> <tr> <td style="padding: 2px;">e-mail: <a href="mailto:pt13@wipo.int">pt13@wipo.int</a></td> </tr> </table>	Date of issuance of this report <b>07 August 2006 (07.08.2006)</b>	Authorized officer  <div style="text-align: center; font-weight: bold; font-size: 1.2em;">Cecile Chatel</div>	e-mail: <a href="mailto:pt13@wipo.int">pt13@wipo.int</a>
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Authorized officer  <div style="text-align: center; font-weight: bold; font-size: 1.2em;">Cecile Chatel</div>				
e-mail: <a href="mailto:pt13@wipo.int">pt13@wipo.int</a>				

# PATENT COOPERATION TREATY

REC'D 12 APR 2005

WIPO PCT

From the  
INTERNATIONAL SEARCHING AUTHORITY

To:

see form PCT/ISA/220

## WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing  
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference  
see form PCT/ISA/220

**FOR FURTHER ACTION**  
See paragraph 2 below

International application No.  
PCT/B2005/050404

International filing date (day/month/year)  
31.01.2005

Priority date (day/month/year)  
05.02.2004

International Patent Classification (IPC) or both national classification and IPC  
A61B8/00, A61B8/06

Applicant  
KONINKLIJKE PHILIPS ELECTRONICS N.V.

### 1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☒ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

### 2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1b/s(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

### 3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:



European Patent Office  
D-80298 Munich  
Tel. +49 89 2399 - 0 Tx: 523656 epmu d  
Fax: +49 89 2399 - 4465

Authorized Officer

Artakis, T

Telephone No. +49 89 2399-7923



**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.  
PCT/IB2005/050404

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**Box No. I Basis of the opinion**

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1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
  - ☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
  - a. type of material:
    - ☐ a sequence listing
    - ☐ table(s) related to the sequence listing
  - b. format of material:
    - ☐ in written format
    - ☐ in computer readable form
  - c. time of filing/furnishing:
    - ☐ contained in the international application as filed.
    - ☐ filed together with the international application in computer readable form.
    - ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.  
PCT/IB2005/050404

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**Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability**

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The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non obvious), or to be industrially applicable have not been examined in respect of:

- ☐ the entire international application,
- ☒ claims Nos. 1-10

because:

- ☐ the said international application, or the said claims Nos. relate to the following subject matter which does not require an international preliminary examination (*specify*):
- ☐ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. are so unclear that no meaningful opinion could be formed (*specify*):
- ☐ the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed.
- ☒ no international search report has been established for the whole application or for said claims Nos. 1-10
- ☐ the nucleotide and/or amino acid sequence listing does not comply with the standard provided for in Annex C of the Administrative Instructions in that:
  - the written form ☐ has not been furnished
  - ☐ does not comply with the standard
  - the computer readable form ☐ has not been furnished
  - ☐ does not comply with the standard
- ☐ the tables related to the nucleotide and/or amino acid sequence listing, if in computer readable form only, do not comply with the technical requirements provided for in Annex C-*bis* of the Administrative Instructions.
- ☐ See separate sheet for further details

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.  
PCT/IB2005/050404

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**Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

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**1. Statement**

Novelty (N)	Yes: Claims	15,16,20
	No: Claims	11-14,17-19
Inventive step (IS)	Yes: Claims	
	No: Claims	15,16,20
Industrial applicability (IA)	Yes: Claims	11-20
	No: Claims	

**2. Citations and explanations**

**see separate sheet**

**Re Item III.**

No examination will be carried out in respect of claims 1 to 10, because they have not been searched (see Art. 17(2)(a) or (3) PCT, Rule 66.1(e) PCT and the international search report).

**Re Item V.**

1 Reference is made to the following documents:

D1 : US 2003/204142 A1 (BROCK-FISHER GEORGE A ET AL) 30 Oct 2003  
D2: US 2001/009977 A1 (SATO TAKESHI ET AL) 26 July 2001 (2001-07-26)

2 INDEPENDENT CLAIM 11

The present application does not meet the requirements of Article 33(2) PCT, because the subject-matter of the single independent apparatus claim 11 is not new for the following reasons.

- 2.1. Document D1 discloses (the references in parentheses applying to this document) an ultrasonic diagnostic imaging system (see abstract) for imaging both perfusion and flow in a body infused with a contrast agent comprising:
- an ultrasonic transducer array (see paragraph 29) operated to transmit a plurality of pulses in each of a plurality of different beam directions and to receive echoes in response to the pulses;
  - a beamformer (see figure 1 (1)) coupled to the transducer array;
  - a first processor (see paragraph 84, lines 4-6: the B-mode processor) coupled to the beamformer and responsive to pluralities of echo signals for detecting echoes returned from perfused tissue (the tissue depicted in the B-mode is perfused, in particular with contrast agent);
  - a second processor (see paragraph 81: the color-flow processor 800) coupled to the beamformer and responsive to ensembles of echo signals for detecting echoes returned from blood flow containing contrast in larger vessels;
  - a decision processor (see paragraph 84), coupled to the first and second processors, for identifying signals to be displayed on the basis of velocity;

- an image memory (implicit feature in paragraph 84 for holding the image-data samples) responsive to the decision circuit which acts to utilize signals produced by the first and second processors to form a perfusion image portion and a flow image portion; and
- a display (see figure 2 (44) and paragraph 87, lines 16-23) coupled to the image memory which displays an ultrasound image which depicts both contrast perfused tissue and the flow in larger vessels in a common image.

Therefore, D1 discloses the combination of features in claim 11, whose subject-matter is not new (Art. 33(2) PCT).

- 2.2. The applicant should note that also D2 deprives claim 11 from novelty (see the passages cited in the international search report).

**3 DEPENDENT CLAIMS 12-20**

The dependent apparatus claims of the present application do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty and/or inventive step (Article 33(2) and (3) PCT), because their additional features (for claims 12-14 and 17-19) have already been disclosed in D1 (see the passages cited in the international search report) or relate (for claims 15, 16 and 20) to minor modifications which come within the scope of the customary practice followed by persons skilled in the art.



# PATENT COOPERATION TREATY

From the  
INTERNATIONAL SEARCHING AUTHORITY

REC'D 12 APR 2005

WIPO PCT

PCT

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See paragraph 2 below

International application No.  
PCT/B2005/050404

International filing date (day/month/year)  
31.01.2005

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05.02.2004

International Patent Classification (IPC) or both national classification and IPC  
A61B8/00, A61B8/06

Applicant  
KONINKLIJKE PHILIPS ELECTRONICS N.V.

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Name and mailing address of the ISA:



European Patent Office  
D-80298 Munich  
Tel. +49 89 2399 - 0 Tx: 523656 epmu d  
Fax: +49 89 2399 - 4465

Authorized Officer

Artakis, T

Telephone No. +49 89 2399-7923



**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.  
PCT/IB2005/050404

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**Box No. I Basis of the opinion**

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International application No.  
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because:

- ☐ the said international application, or the said claims Nos. relate to the following subject matter which does not require an international preliminary examination (*specify*):
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- ☐ See separate sheet for further details

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.  
PCT/IB2005/050404

---

**Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

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**1. Statement**

Novelty (N)	Yes: Claims	15,16,20
	No: Claims	11-14,17-19
Inventive step (IS)	Yes: Claims	
	No: Claims	15,16,20
Industrial applicability (IA)	Yes: Claims	11-20
	No: Claims	

**2. Citations and explanations**

**see separate sheet**

**Re Item III.**

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- an image memory (implicit feature in paragraph 84 for holding the image-data samples) responsive to the decision circuit which acts to utilize signals produced by the first and second processors to form a perfusion image portion and a flow image portion; and
- a display (see figure 2 (44) and paragraph 87, lines 16-23) coupled to the image memory which displays an ultrasound image which depicts both contrast perfused tissue and the flow in larger vessels in a common image.

Therefore, D1 discloses the combination of features in claim 11, whose subject-matter is not new (Art. 33(2) PCT).

- 2.2. The applicant should note that also D2 deprives claim 11 from novelty (see the passages cited in the international search report).

**3 DEPENDENT CLAIMS 12-20**

The dependent apparatus claims of the present application do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty and/or inventive step (Article 33(2) and (3) PCT), because their additional features (for claims 12-14 and 17-19) have already been disclosed in D1 (see the passages cited in the international search report) or relate (for claims 15, 16 and 20) to minor modifications which come within the scope of the customary practice followed by persons skilled in the art.